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Lytton (W.L.)
AN
INAUGURAL DISSERTATION

ON
D R O P S Y.

SUBMITTED TO THE PUBLIC EXAMINATION OF THE
FACULTY OF PHYSIC

UNDER THE AUTHORITY OF THE TRUSTEES OF COLUMBIA COLLEGE,
IN THE STATE OF NEW-YORK,

The Right Rev. BENJAMIN MOORE, D. D. President;

FOR THE DEGREE OF
DOCTOR OF MEDICINE,

On the 10th Day of November, 1807.

—
BY WILLIAM L. LYTTON, A. M.

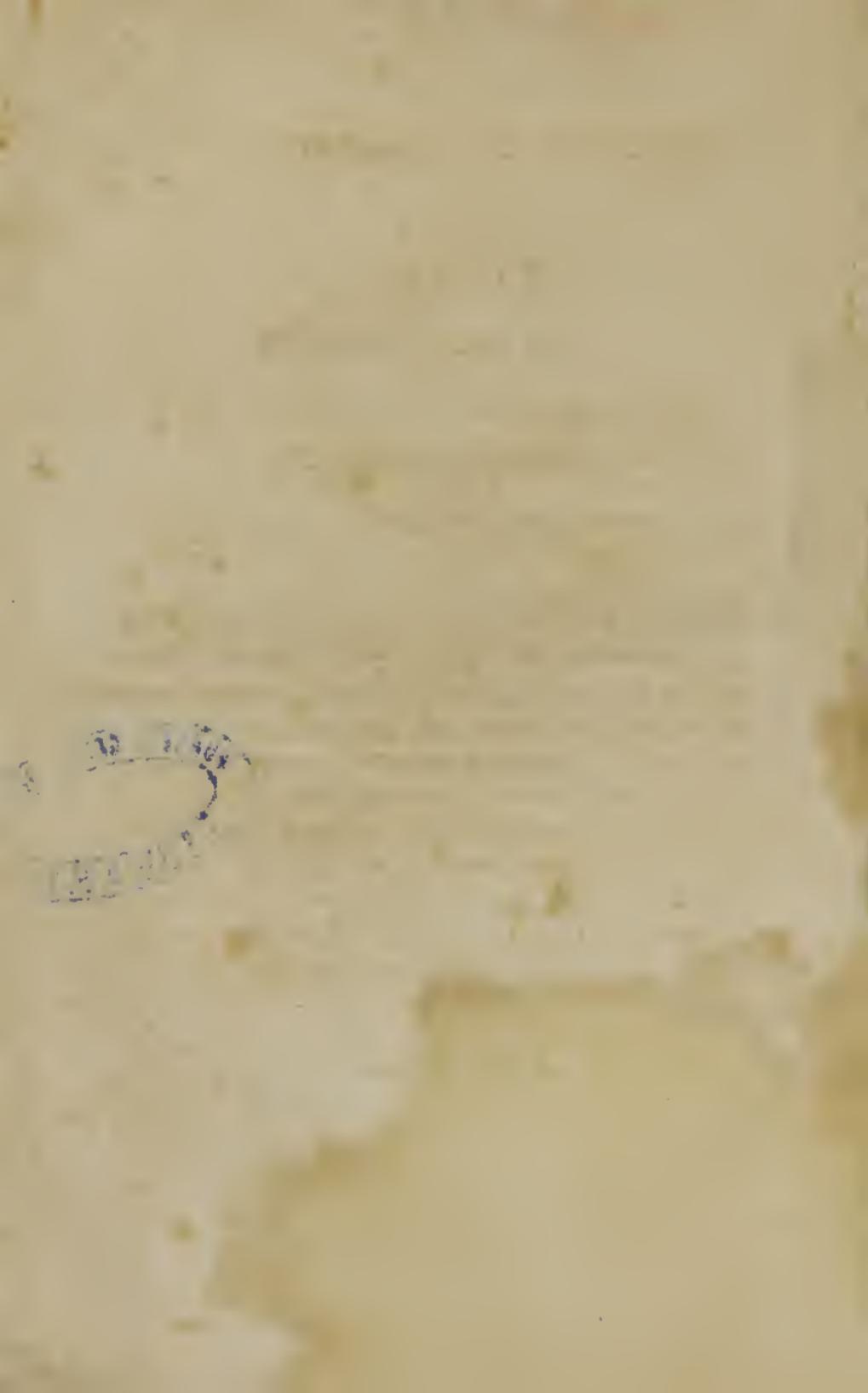
Of the Island of St. Croix, and Member of the American *Aesculapian Society.*

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—
1807.





TO

WRIGHT POST, ESQ.

Professor of Anatomy and Surgery in Columbia College;

AND TO

WILLIAM HAMERSLEY, M. D.

Professor of the Theory and Practice of Physic in the same Institution;

THIS DISSERTATION

IS RESPECTFULLY DEDICATED

AS A

TESTIMONY OF ESTEEM AND GRATITUDE.

TO

WRIGHT POST, ESQ.

DEAR SIR,

TO a student, the attention of his Preceptor must be particularly agreeable; but how much more so to receive that attention from one, whose character as a man is truly correct, and who, in his profession, is highly eminent. Allow me to express those sentiments of gratitude and respect which your conduct to me, during my medical studies, has so invariably merited. Your kindness to all who are studying the profession to which I hope to belong, claims their warmest thanks; but to me especially that kindness has been most decidedly marked, and by me most sincerely felt. Permit me to offer you my warmest acknowledgments; and may God grant that health and happiness may long be continued to yourself, and to those with whom you are more nearly connected; and that your useful labours in the profession may meet the success they so highly merit, is the sincere wish of,

Dear Sir,

Your much obliged

And ever grateful friend,

WILLIAM L. LYTTON.

A

STATISTICAL VIEW

OF THE

DROPSY

FOR THREE YEARS, IN THE CITY OF NEW-YORK.

BEFORE entering upon the discussion of this subject I shall take a view of the tables of mortality in this city for three years. This will tend to show the importance of the subject about to be considered. It will be remembered, however, that Hydrothorax, Ascites, and Anasarca are not always discriminated in the weekly reports, but classed under the general title of Dropsy. This may create some uncertainty in calculating from the reports, since I do not intend to treat of these several diseases, but more particularly of Ascites and Anasarca. The following tables will show the monthly mortality for the years 1804, 1805, and 1806, from Dropsy. In the first table the particular form of disease is not discriminated, but it includes the three.

principal forms of Dropsy, Anasarca, Hydrothorax, and Ascites. The second shows the mortality from that kind of Dropsy which more particularly affects children, viz. Hydrocephalus. In making out these tables I must acknowledge the liberty I had of consulting the elaborate ones made out by Mr. James Hardie, A. M.

N. B. The population of the city and county of New-York, including the whole island, is supposed to be not less than eighty thousand inhabitants. Persons are now employed in taking the census, and this estimate is generally considered a moderate one.

TABLE I.

Exhibiting the monthly Reports of Deaths from Anasarca, Hydrothorax, and Ascites, for three Years, under the Title of Dropsy.

	1804.	1805.	1806.	
January,		6	8	
February,		7	6	
March,		7	2	
April,		9	9	
May,		8	9	
June,		3	10	
July,	39*	11	3	
August,	5	10	11	
September,	7	2	9	
October,	5	3	10	
November,	3	10	6	
December,	9	7	6	
Total	—	83	89	240

* The first seven months of this year the details were not made out, and the whole number is entered in July.

TABLE II.

Giving the Report of Deaths from Hydrocephalus.

	1804.	1805.	1806.	
January,		2	1	
February,		4	1	
March,			2	
April,		2	3	
May,		3	3	
June,		1	2	
July,		2		
August,		2		
September,			1	
October,			2	
November,			3	
December,			4	
Total	—	19	16	22
				57

It must be remembered, that the number of legal Practitioners of Physic and Surgery in this city is at least 150. Of these the reader may readily suppose that a very considerable portion are persons not altogether competent to decide on the nature of diseases. The sextons of the different cemeteries are obliged to deposit weekly in the Clerk's office, a list of deaths, with the name of the deceased, and the disease. This is generally obtained by a certificate from the attending practitioner. Such are the sources from whence the information necessary to form an obituary are obtained.

From this view of the mortality of dropsical diseases for a few years in this city, the progress of science and the improvement of medicine are very evident. The deaths for three years, not including Hydrocephalus, amount to about the 28th part of the total mortality. Not long since this disease was considered as

incurable, as will be seen when we come to treat of its history. The second table gives the deaths from Hydrocephalus, a disease principally affecting children, and not so manageable as other forms of Dropsy.

In the following table is given the number of patients, and the deaths for four years of the different Hydropic complaints in the New-York Hospital, as may be seen by the annual statement of the Governors of that institution.

TABLE III.

Dropsical Diseases and Deaths in the New-York Hospital for four Years.

	1803.	1804.	1805.	1806.	
Anasarca,	1				2
Hydrothorax,					
Ascites,	2				
Hydrocephalus,	1				
Hydrocele,	1	2	2	3	
Dropsy,	10	38	37	44	
Total	15	40	39	47	141

Of which there died 46, viz. 2 in 1803, 13 in 1804, 11 in 1805, and 20 in 1806.

The Hospital of New-York is upon a more extensive plan than any other in the United States, and consequently affords better opportunities to students for observation. Every winter there are upwards of 200 patients, medical and chirurgical, in this institution. In the severe winter of 1803 and 1804 there were 270. It is intended for the sick and maimed of the whole State, and all mariners entitled to the advantages of an Hospital are received into it.

AN
INAUGURAL DISSERTATION
ON
D R O P S Y.

DEFINITION.

DROPSY is a certain diseased state of the circulating fluids, or rather their vessels, proceeding from an increased action of the exhalent arteries, a diminished action of the absorbent vessels, and an obstruction to the venous circulation.

Whenever these, or either of them, occur in the human body, a serous fluid is effused or exhaled into the different cavities, as well as in the cellular substance. If the circulation is hurried through the extreme branches of the arterial system, more serum is poured out than the absorbents can remove or take up, and accordingly a preternatural quantity is collected. The same will happen if the absorbents are tardy in their functions, when the serum is effused in the usual and natural quantity.— When the liver and other glandular parts within the cavity of the thorax and abdomen become hardened or schirrous, so as to obstruct the free return of blood to the heart, the like will take place. So also, after inflammation in

the cavity of the thorax, pressure externally by tumor, bandage, or ligature, will produce the same effect.

This disease may be resolved into a disease of the absorbent system, acting partially, and in particular parts, and not always producing general Dropsy. When the absorbent system is universally affected, the disease is known in Nosology by the name of Anasarca. When it is an original disease, and suffered to proceed, it is not a mere dropsical swelling of the extremities, but an hydropic diathesis takes place, and it is then accompanied by other forms of Dropsy, oftener with Ascites than any other. It is placed by Cullen in the *class Cachexiæ, and order Intumescentiæ Aquosæ.*

The word is derived from *Αγε* and *Σαρξ*, along the flesh. This I must confess to be not very expressive.

Hydrothorax is a much more appropriate name for the disease when it exists within the cavity of the chest. It is in the same class and order with Anasarca, and also has a Greek derivation, *υδωξ*, water, and *θωραξ*, the chest.

A Dropsy of the belly or abdomen is called an Ascites, from *ΑΣΚΟΣ*,* a sack, or bottle, the effused serum or water being contained within the belly between its parieties and the intestines, as a fluid within a sack. Ascites is the genus which follows Hydrothorax in Cullen's systematic arrangement. These are the three principal

* So Homer makes mention of wines being brought, *ασκω εν αιγειω*, in a bottle made of goat skin. Iliad iii. line 247. Odyss. vi. line 78. Odyss. ix. line 196.

forms of Dropsy, and may be generally removed by the same treatment, being diseases of the same set of vessels in different parts of the body. If this was only a conclusion from reasoning, the same would answer for Hydrocele and Hydrocephalus Internus, but we know it as a fact that these require a different treatment.

DIAGNOSTIC SIGNS.

Anasarca generally begins in the extremities; first in the feet and legs, by a swelling which commonly spreads over the body and arms. This swelling is soft, inelastic, and without pain, when pressed upon, it yields to a slight force, leaving the mark of the body impressed, the pit remaining for some time, and gradually recovering itself. This arises from the serum diffused in the cellular substance beneath the skin being removed by the impressing force, and becomes very evident when the extremities are much swelled by œdema.*

In some cases of Anasarca the inelastic feel is not so evident; the limbs are then much swelled, the skin becomes tense and inflamed, not so yielding, and very painful to the touch. This, however, may be easily distinguished and known by other accompanying symptoms of Dropsy.

* The term œdema is used by Physicians only to denote a swelling of the lower extremities.

Anasarca seldom continues long without producing Ascites. While the dropsical fluid increases and spreads beneath the skin, destroying the muscular parts, and converting them to fat, the same fluid collects within the cavity of the abdomen, and enlarges the size of the body. Swellings of the abdomen are sometimes of a doubtful nature.* But a dropsical swelling may be easily distinguished by placing the hand on one side of the abdomen and gently tapping with the other on the opposite side; a fluctuation of water will be felt.

As Ascites increases, respiration is impeded. The serum collected in the cavity of the abdomen prevents the action of the diaphragm, and of course impedes the breathing by not allowing the lungs fully to inflate themselves.

In short, Ascites is known by an abdominal swelling, having a fluctuation (when felt as just described), with a small quantity of urine, a difficulty of breathing, and uneasy lying in a recumbent posture.

THE REMOTE CAUSES.

Dropsy has been considered altogether as a disease of debility; but if we take a more im-

* In Duncan's Medical Cases (Edinburgh, 1784) a dropsical swelling of the body of a doubtful nature is recorded, wherein there was no fluctuation, yet the patient was cured by the usual remedies for Ascites. A similar case happened at the New-York Hospital in the winter of 1806—7. Under the prescription of Dr. Rodgers, the patient recovered.

partial view of the subject it will be found to be incorrect. In treating, therefore, of the remote causes of the disease, we shall consider them as arising from an increased and a decreased action.

1st. *An increased action.* That Dropsy proceeds from an increased action in many cases I firmly believe. To one not accustomed to this opinion, venesection in every case of Dropsy would be avoided. I have been confirmed and strengthened in this opinion by Doctor Rodgers's judicious practice in the New-York Hospital the last winter. I recollect to have heard him order bleeding in several cases of Dropsy with good effect during his clinical course. Dr. Rush, I am informed, always speaks of the febrile state of Dropsy. In this case, from the violent increased action of the arterial system, indirect debility, or, as he would express it, debility from excessive action is produced. Here, then, debility is the consequence of the disease, not the cause.

This theory is handsomely illustrated in a case I saw at the commencement of Doctor Rodgers's clinical attendance. The man was a clerk by occupation, aged twenty-three years. When I saw him, he was of a remarkably pale leucophlegmatic look; he had been variously treated, and had just recovered from a salivation, after taking calomel and squills, without materially amending his health. On the first day of December, 1806, the house physician made the following report to the clinical professor of the previous treatment of the patient.

"His legs and abdomen were much swelled when he began to take the calomel with squills, by which he has been salivated. He then took bark and wine, and bitter infusions. After the salivation went off the abdomen fell, and all the dropsical appearances were going away; but having a full, hard and quick pulse, with great heat of the skin, he was bled three times in the course of a week, each to the amount of twelve ounces. There still being little alteration in the pulse, and a great thirst, with a parched mouth, the tincture of digitalis was given, beginning with five drops three times a day, and gradually increasing it. This soon lowered the pulse, relieved the heat of the skin and continual thirst. Since appearing to relapse, he is again taking one grain of calomel with two of squills three times a day. Bandages are applied to the legs. The pulses were still full, but not frequent; the calomel and squills were ordered to be omitted, mercurial frictions on the thighs were directed three times a day, and an oleaginous liniment in the intervals. On the second of December he was much the same; his medicines were continued. December the fourth he died."

Another case of Dropsy, attended with symptoms of fever, occurred during the same winter. I have obtained liberty to transcribe it from the case book of the Hospital.

"James Rose, labourer, aged 49 years, was received into the New-York Hospital on the 7th of January, 1807, with Dropsy. His legs are swolen with œdema, and his abdomen has a

fluctuation, though not very distinct; has a purple eruption on the legs.

January 10th. Pulse frequent, full, and oppressed; no stool these five days; tongue clear.

Mittatur sanguis ad uncias decem. Capiat instanter—Calomel preparat. grana duodecim. Post tres horas capiat pulv. jalap. grana octo. Cremoris tartari, scrupulos duo.

January 12th. Swelling of the feet and legs diminished, but no less in the abdomen.

℞ Calom. granum unum.

Pulv. scillæ, grana ij. ft. in pill. capt. unam ter in die. To have half a pint of gin daily.

January 13th. Apply bandages to the legs.

January 14th. Passes more urine; costive.

Rept. calom. et scillæ, in bolo.

Has a pain in the head. A blister to be applied behind the ears; the feet to be well cleansed by the use of warm water and soap.

January 15th. Medicine purged him once this morning. Feels oppressed when in an horizontal posture, is relieved by raising the head. Repet. pill. calom. et scillæ.

January 18th. Passes more urine than before. Feet not swelled.

January 20th. Abdomen still tumid. Legs again swelled. Omittantur medicamenta.

℞ Infus. amar. unciam unam.

Potass. grana v. cpt. quaq. secund. hora.

January 22d. Better. Rept. medic.

January 26th. Has an increase of saliva, bowels rather costive. Rept. medic. habeat enema com. instanter.

January 27th. Is better; bowels open, pulse and skin natural and free. Rept. infus. amar. &c.

January 30th. Rept. medic. sumat ter in die tinct. guaiac. vol. drachmam.

February 2d. Omit. infus. amar.

& Chalyb. ppt. grana decem.

Pulv. cort. peruv. semi drachmam. M. capt. ter in die.

February 3d. Has an oppression at the breast without fever. Rept. medic.

February 4th. Better. Rept. chalyb. ppt. & pulv. C. peruv.

February 9th. Dismissed cured."

This man's case was attended with an increased action in the arterial system, as was evident from the pulse and erysipelatous inflammation in the lower extremities. That the professor was not mistaken in the appearances, the event of the blood-letting and other evacuations prove beyond a doubt. I shall make no further observations on the case, than that the practice was judicious, varied, for the instruction of the students, and finally successful. I saw the same person in the Hospital the ensuing spring, free from all dropsical appearances, having been admitted for a pain in the head and deafness.

An obstruction to venous circulation is considered as a remote cause of Dropsy. This obstruction may arise from a schirrosis of the liver, pressure on the veins, by tumors, ligatures, or from pregnancy.

Cullen, in his Practice of Physic, § 1652, speaks of Dropsy arising from a schirrous liver.

and other glandular parts in the cavity of the abdomen. But he appears to me not to have understood that part of the subject so well as a later writer* on diseases of the liver, who, after speaking of a schirrous liver, arising frequently from a long residence in warm climates, without active inflammation, observes, that this disease of the liver is most generally followed by Ascites; and in a note on the subject he reasons thus:

“ It is evident the return of venous blood was first impeded by pressure, and that a resistance was formed to the action of the arteries, the ordinary efforts of which are now become insufficient to propel the blood with its wanted velocity; hence a necessity for a greater exertion of the arterial system to surmount the difficulty: but as the exhalents form a part of this system, or partake of the general effect, an effusion of their watery contents follows as a consequence; hence the œdema or a local Dropsy.

“ The production of the effect just stated does not argue or suppose any previous disease either in the exhalents or absorbents, but arises from the concurring operation of two causes; an impediment to the return of venous blood, and the consequent accelerated action of the capillary and exhalent system. And it ought further to be remarked, that as the remote cause is limited to a particular part of the body, so was the effect produced by it.

“ From obstruction to the venous circulation

* Saunders.

producing œdema in particular parts, the same reasoning is transferred by analogy to the liver. This viscus having become schirrous by the deposition of the coagulable part of the blood in its substance, the circulation through the vena portarum is obstructed, and the same effect is produced as in other parts of the body."

In such circumstances, then, Dropsy is not a disease of debility, but of increased action in the arterial system. So far as I have observed, the pulse in Dropsy appears of the oppressed and labouring kind generally, rather than that of debility, except where it is known to arise from that cause.

In April, 1807, I saw in the New-York Hospital, a case of Anasarca Oppilata, proceeding from ligatures upon the arms compressing the veins. That this was a dropsical swelling, proceeding from, or consequent upon an increased action, will not be denied upon a relation of the circumstances of the case.

A man in a raging fit of delirium or insanity having cut his throat, and divided the os hyoides from the thyroid cartilage, without injuring the carotid arteries, was taken to the Hospital in that situation.

After proper bandages were applied to keep the mouths of the wound together, the patient was secured by tying his feet to the foot of the bed, and a sheet passed under his arms and tied to the head. His arms were fastened to the side of the bed by flannel rollers around the wrists and elbows; these being tightly drawn, retarded the circulation in the external

veins, and in two days brought on an œdema of the arms and hands below the bandage. The man lived several days in this state, I believe insensible of his situation: he was restless and uneasy, making a great noise at times, and struggling to disengage himself; he took no nourishment but milk, and finally died.

Drunkenness, or intemperance in drinking spirituous liquors, is considered another remote cause of Dropsy. In accounting for Dropsy from drinking, by considering it a disease of debility, we must first suppose the excitability to be almost exhausted, and indirect debility to be induced, before a serous fluid is poured out, constituting disease of laxity of the exhalent arteries. When this is the case, which I grant may happen, then indeed Dropsy is a disease of debility. But in hard drinkers, before the excitability is worn out, a serous effusion takes place from the over action of the arteries. The absorbents being in an healthy state, are unable to take up the effused fluid, and the disease increases.

Here we may truly say, “*Causa remota, tollitur effectus.*” For when the system is thus raised above par, or healthy excitement, if the person ceases to apply the stimulus, the dropsical appearances will disappear as the increased tone is diminished.

Hard drinkers who have been long habituated to intoxication, are apt to be affected with schirrous livers. In the prosecution of this subject I shall relate a case to this purpose.—To those who wish to be more particular on the

subject of Dropsy from an increased action, I would suggest a perusal of the second volume of Rush's Medical Inquiries.

2d. *A decreased action.* There is no doubt that Dropsy is frequently a disease of debility, and consequently of decreased action; all that is contended for is, that it is not always such. Any cause producing a general debility, may be a remote cause of Dropsy, this producing a relaxation of the vascular system, either by a want of tone in the exhalents or in the absorbents. If the absorbents still have a healthy action, it will not be sufficient to remove the effused fluid arising from a relaxation of the exhalents. If, in a Dropsy of debility, it is ever the case that the lymphatics possess a healthy action, it is hard to determine; the probability is, that in a case of debility, the absorbents as well as the other vessels want tone. But in Dropsy from an increased action it frequently happens that the capillary arteries are alone diseased, while the absorbents convey to the thoracic duct their usual quantity of fluid. Drunkenness may be considered as a cause of debility inducing Dropsy. When the constitution is almost worn out, and the habit debilitated by the intemperate use of spirituous liquors, a Dropsy is pretty generally the consequence. In this case the debility affecting the vascular system produces a laxity or want of tone in the exhalents and absorbents; hence the one set of vessels pours out a serous fluid, and the other is unable to remove it. This then is the true Dropsy from debility a want of action

or at least a decreased action. This state of Dropsy is always known or indicated by the feebleness of the pulse. It differs from a Dropsy of increased action in this. That arising from an increased action may be called the febrile state of Dropsy, attended with pyrexia and elevated pulse.

As Dropsy is consequent upon a debilitated habit of body, it frequently comes on in the convalescent period of other diseases. It has been known to succeed Intermittent Fevers, Hemorrhages, spontaneous or artificial, Asthma, Phthisis, Pneumonia, &c.

These causes produce Dropsy of debility. The fact, however, is well enough established that Dropsies follow from the debility induced by other diseases. I shall therefore merely give one case to verify the facts I have advanced. A case of Dropsy, succeeded by Typhus Fever, shall close my observations on this disease as arising from debility.

Jacob Jones, a black man, aged 30 (a patient at the New-York Hospital), after recovering from a Typhus Fever, was unable to lie on his back, in consequence of a large ulcer, and was so weak that he could not sit up long. He had omitted the volatile alkali, but continued the porter. After laying some time on his belly, his face and arms began to grow œdematosus, and shortly after his legs. At this time his abdomen began to swell, and the Dropsy came on so fast that he died in three days, much swelled in every part of his body and limbs.

There is another remote cause of Dropsy,

which I can arrange neither under the head of an increased or decreased action. It is when the lacteals or lymphatics are ruptured, or the common trunk of these vessels. On this something further will be said when treating of the History of Dropsy.

THE PROXIMATE CAUSE.

The proximate cause of Dropsy is a preternatural collection of fluid in the different cavities and in the cellular substance of the body.

In Hydrocephalus this collection is in the ventricles of the brain; in Hydrothorax, within the cavity of the chest; in Ascites, within the abdomen, and in Hydrocele it exists within the tunica vaginalis testis; in Anasarca it is said to be generally in the adipose and cellular substance, beneath the integuments. But I have observed in the dissecting room of Mr. Post, my preceptor, the excellent professor of anatomy in Columbia College, that it frequently exists in the intervening cellular substance among the muscles, particularly of the extremities.

Doctor Rush calls the proximate cause of a disease* the disease itself (*ipse morbus*). This agrees with my definition of the proximate cause of Dropsy, which being a preternatural collection of fluid, is the disease itself; for remove the fluid, and the disease is removed; but

* Rush's Med. Inquiries.

it will again return, unless the remote cause is taken away.

I do not see that this differs from the definition of a proximate cause by Doctor Gregory, “*Causa quæ presens, morbum facit, sublata tollit, mutata mutat.*”* Here we see that in Dropsy the “*causa quæ presens*” is the collection of an aqueous fluid, or, in the words of Dr. Rush, “*ipse morbus.*” Suppose this fluid to be taken away, the proximate cause or disease is removed. But if the remote cause remains, the disease is not cured unless this cause is also removed, of which I shall speak in treating of the cure.

HISTORY OF THE DISEASE.

I have deferred treating of the history of Dropsy till I had defined the disease, and spoken of its remote and proximate causes. It appeared to me that a history of the disease would come in better here than in the beginning of my treatise.

The history of Dropsy may be considered in two points of view; as it respects its mortality and cure, and as it accompanies, and is symptomatic of other diseases.

1st. As it respects its mortality and cure. It was but a few years ago that this disease was considered as unmanageable, and beyond

* *Conspect. Medicinae Theoret. Edinb. 1782.*

the power of the medical art; it was then not more prevalent, but more mortal than at present.

I shall not enter into a discussion of the means employed at different times for the alleviation of this disease; it is often a mortal, but not always an incurable complaint. For the causes of this I would direct the inquirer to Dr. Rush's lecture "on the causes of death in diseases that are not incurable."

Le Dran (in the fifth edition of his surgery, published in 1781) describes the operation of the paracentesis, but considers Ascites as most generally fatal and incurable. In Wallis's Sydenham we find the disease called incurable, and tapping disapproved.

In the first volume of the London Medical Observations and Inquiries, a case of Dropsy is related as having existed for forty-four years, and then proving fatal.

There is recorded in Mead's *Monita et Precepta Medica*, a very singular instance of frequent tapping. A lady in the fifty-sixth year of her age was tapped sixty-six times in sixty-seven months, and had taken away two hundred and forty gallons of water, without ever repining at her case, or ever fearing the operation.*

Dropsy is very prevalent in this city, and yet not very fatal, as may be seen by the tables in

* "Here lies dame Mary Page,
Relict of Sir Gregory Page, Baronet.
She departed this life March IV. MDCCXXVIII.
In the LVI. year of her age.
In LXVII. months she was tapped LXVI. times,
Had taken away CCXL. gallons of water,
Without ever repining at her case,
Or ever fearing the operation."

the beginning of this dissertation. This change in the treatment of the disease has been brought about in a few years. It will be seen by the first table that the number of deaths for three years from Hydrothorax and Ascites was 240, which makes only about the 27th part of the total number of deaths (6712) for the same time.*

2d. Dropsy is symptomatic of other diseases. In treating of the history of the disease, it will not be amiss to show that it is sometimes symptomatic, and not always an idiopathic disease, though I believe, where an œdema exists, it is a partial Dropsy; in which case it may accompany a more violent disease, and be of secondary consideration. All then that is meant by its being symptomatic, is, that during the existence of another disease, some one of the remote causes of Dropsy may exist in a particular part, and produce a local œdema. If the primary disease is cured, the Dropsy will also be cured.

Various instances of this kind of Dropsy have occurred in the New-York Hospital; and I have noticed their appearance, and watched their termination. They occur in several diseases.

In the winter of 1806 I saw a sailor affected with scurvy, accompanied with œdema of the legs. As the scorbutic ulcers and blotches grew well, and the stiffness in the hams was removed, the œdema gradually disappeared. Another

* To make the tables in page 3d et seq. I have consulted those made by Mr. Hardie, of the annual mortality, from whence I procured the total number.

sailor, in the spring of the present year (1807), after returning from a long voyage, was received into the Hospital, for scurvy, affected much as the preceding. He had scorbutic ulcers, stiffness of the hands, and tender gums; his legs also were œdematosus. By a well regulated diet, all these symptoms were removed. In considering these cases I turned to Lind* on the Scurvy, and found that he had laid down œdema of the legs as a symptom of that disease.

I have before remarked, that Dropsy follows Phthisis Pulmonalis, and I have seen it accompany this disease without great inconvenience through its several stages. In the case of one patient, I saw it supervene and apparently check the progress of the phthisis, which remained, or again returned, as the Dropsy was cured. Authors on consumption also speak of œdema attending the latter stage of this fatal disease. Writers have informed us that rheumatic swellings are attended with dropsical effusions.† I have seen numerous instances of this kind, and it appears to me that the acute state of Rheumatism gives rise to them more generally than the chronic.

I believe it accords with the sentiments of medical men on the subject of pregnancy, to consider it as a disease. This state of the female habit is frequently attended, in the latter stages, with œdema of the feet and legs. It will most probably happen if the foetus be large, or there

* See page 101, London edition, 1772.

† See Reed on Consumption, &c.

should be twins. Such a swelling coming on from this cause cannot be removed till after delivery, when it will commonly disappear. This being known, the young practitioner will not be alarmed at this appearance, or make useless efforts to remove it, till the pressure of the uterus upon the large vessels is removed by the expulsion of the child.

Besides these there is a swelling of a doubtful nature, which has been considered and treated as Dropsy. A case of this kind occurred the last winter at the New-York Hospital.* It yielded to the tartrite of potash and digitalis, which were the principal remedies.

* " William Walters, aged 42, was admitted 30th of December, 1806. About four weeks ago, while at sea, after being exposed, was seized with a swelling of the abdomen, which is now much enlarged. Having an indistinct fluctuation, no œdema of the feet and legs, makes but little water, and that high coloured. Is habitually costive. No febrile complaints. Pulse full and oppressed; sometimes has a cough. Mittr. sang. ad uncias octo. dein sumat calomel. grana octo.—Capt. vesp. mist. expt. unciam unam cum. tint digit. gtt. xx.

Dec. 31. Was bled yesterday six ounces, and fainted; feels better today. Pulse slow and full, tongue clear. Passed more urine than usual since last night.

R. mixt. expt. unciam unam tinct. digit. gtt. xv. cap. quater in die.

January 2d. 1807. Passes more urine and freely, is considerably less in circumference. Repetantur medicamenta.

January 5th. Passes urine freely, belly less. Repetantur medicamenta.

R Crem. tartar. uncias iij. Pulv. fol. digit. grana iv. divid. in dos. octo. sumat un. ter in die.

January 6th. Rested better last night, belly larger, does not make so much urine, bowels lax. Repetantur medicamenta. Let him have half a gill of gin.

January 7th. Rather larger in size. Repeat the powders of crem. tart. and digitalis four times a day.

January 9th. No less in circumference, but passes more urine. Repeat the powders five times a day. Fiat fric. abdom. mane et vespera. ungt. merc. anod.

January 12th. Feels better, but the abdomen appears no less; feet and legs swelled. Repetantur medicamenta.

January 14th. Better, belly less swelled.

16th. Rept. mixt. expt. et tinct. digitalis.

19th. Relieved in every respect; passes more urine. Rept. omnia medicamenta.

In Duncan's Medical Cases a similar instance is related. Cases of chyliferous Dropsy may be of this nature. The abdominal swelling will be distinct from Tympanites, and yet have no fluctuation like true Ascites, or at least a very indistinct one; nor will it always be accompanied by œdema of the extremities. In the instance above related, there was no œdema; but I find in Percival's Essays* an instance of a female child having a chyliferous swelling of the abdomen, and, at the same time, œdema of the legs. She was twice tapped, and finally cured. Another case is related by Dr. Charles Smith, of New-Jersey, in a boy who was also cured after being twice tapped.†

The indistinct or obscure fluctuation, with no accompanying œdema, rendering the cases doubtful, may arise from the thickness and tenacity of the chyliferous compound extravasated into the cavity of the abdomen. I am inclined to think that this disease more frequently happens than is certainly known. It no doubt arises from a rupture of the lacteals.

January 22d. Abdomen larger than yesterday, not so much urine passed as before. Rept. mixt. expt. The powders to be given six times a day.

January 23d. Swelling has increased since yesterday. Repetantur omnia medicamenta.

Fric. abdom. ungt. merc. anod. ter in die.

January 26th. Swelling better, passes more water. Rept. medic.

January 27th. Says he is better; mouth sore. Omit. ungt. merc. anod. Rept. altera medic.

January 28th. Belly less, no swelling of the feet and legs. Repetantur medicamenta.

January 29th. The powders to be given four times a day. Sumat infus. amar. unciam unam ter in die.

January 30th. Continues to mend. Rept. om. medic.

February 2. Dismissed cured.

* Vol. i. page 262, Lond. edit. 1776.

† Medical Repository, vol. 3, page 361

This is presumed by Dr. Percival, in the case I have mentioned from his work in his essay on the chyle. It is also spoken of by Cullen and other writers on Dropsy. Such swellings do not appear to require a treatment different from Dropsy in general. These cases are important in the history of the disease, as, by inattention the practitioner may be led into mistakes.

PROGNOSIS.

The prognosis in Ascites will vary as the disease is accompanied by symptoms of an increased or decreased action. If through prejudice and ancient custom we were led to consider Dropsy as altogether a disease of debility, and prescribe for it accordingly, without attending to the symptoms, we should seldom form a true prognostic.

In fact, the skill of the physician must in a great measure depend upon his attending to the varying symptoms. Let him not then be a blind adherent to a prescribed rule, but open a vein only when it is indicated by the state of the pulse.

In Ascites, attended by febrile symptoms, the prognosis is most generally favourable, and often more so than when attended by a languid and weak circulation. Here immediate relief is in our power. In the commencement of a febrile Dropsy, it will be instantly checked by vene-

section, and but little else will be necessary to remove the disease. Thus I should almost always form a favourable prognosis in Ascites with Pyrexia, where a great quantity of fluid is not yet collected in the abdomen.

If the disease should be of some standing, and the extravasated fluid be in considerable quantity, I should also form a favourable prognostic, if, after bleeding, the further accumulation appeared to be checked, and the excitability was not exhausted. And if the disease appeared to stand, and a further bleeding should be necessary, still my prognosis should not be unfavourable.

I should hesitate in making the prognosis if an Ascites should be attended with oedematous extremities, and the skin become dry, sore and inflamed.

In Dropsy of debility, as I have before said, the prognosis, though not so often favourable, is not always fatal. We are not to be alarmed when it accompanies other diseases, and is gradual in its appearance after Pneumonia, Typhus, Hemorrhage, &c. If Ascites rapidly supervenes, the prognosis is bad. Then the means which ought to be used, would the sooner fatally terminate the disease. If the tone of the system can be supported by internal stimuli, so as to prevent the sudden exhaustion of the little remains of excitability, the prognosis will be more favourable. Even when the disease is idiopathic, if the exhibition of remedies will prevent it from progressing, we may still have some hopes of a favourable termination.

If after tapping, fainting should not supervene, or extreme weakness come on, hope should elevate the spirits, even though the swelling returns in a few days, for then we may venture to repeat the operation without exhausting the strength; and if the tapping is performed before the swelling is increased to its former size, something will be gained. Of this further will be said when speaking of the cure.

OF THE CURE.

The indications of cure in Dropsy are two; first, to evacuate the fluid already effused; and, second, to prevent the collection of more, by restoring tone to the system, in reinducing a regular action.*

The first indication may be answered in various ways.

1st. *By Emetics.* These are exhibited with a view to stimulate the absorbents to an increased action, when a similar one exists in the exhalents, or when the former are tardy in removing the usual quantity of serous fluid. If Dropsy arises from an increased arterial action, emetics are not so serviceable, and the disease may be checked by gentler means. Besides, emetics have a sickening idea connected with them, and in their operation are too nauseous to be admired; they are, nevertheless, of great

* Dr. Rush considers irregular action as the proximate cause of all diseases, and that the indication of cure consists in equalizing the excitement.

service; but in this disease the greatest difficulty in their use is their failure in many cases to operate on the stomach. This I have seen happen more than once in the New-York Hospital, where neither the sulphate of zinc, sulphate of copper, tartrite of antimony, nor ipecacuanha, would operate without giving larger doses than were thought prudent.* In circumstances like these, where the stomach is so much disordered, perhaps the quicker emetics would do less injury by their more rapid operation. These are the vitriolated copper, zinc, &c. I am no otherwise partial to these, nor can I bear testimony to any particular good from any other emetic.

Dropsy is known to have been cured by spontaneous vomiting; cases of which are related in the second volume of the London Medical Observations and Inquiries.† In the same volume‡ is related another case, where vomiting came on after tapping, and the patient got well. These are related as remarkable instances of cure, for at that time the facts were inexplicable, and the disease thought incurable.

2d. *Cathartics.* To preserve regular alvine discharges, cathartics are frequently necessary; but the variable state of the symptoms renders it needful to prescribe them with great caution. Debilitated habits will not bear powerful evacuants, even though the debility may be consequent upon the disease from an increased action, and particularly where it arises from a

* In the case of one James Davie, a gardener, one scruple of ipecacuanha, with five grains of tart. emet. scarcely had any effect.

† See p. 287 and 297, edit. 1762.

‡ Page 121.

previous debilitated state. Cathartics are of infinite service in an inflammatory Dropsy, though I should not trust the cure to these alone. Drastic purges are generally preferred on these occasions.

It sometimes happens that the intestines are not more susceptible of impressions from cathartic, than the stomach from emetic medicines. James Davie, who is already spoken of, I saw in the Hospital in May and June (and is still there with Hydrothorax, having been cured of the Ascites,) of the present year, 1807. The house physician related to me one day, as I accompanied him through the wards, that he had bled the patient, blistered his legs, and punctured them in a number of places. He had prescribed several large cathartics, and various clysters, without moving his bowels. At length he gave twenty grains of calomel, twenty of jalap, and ten of gamboge, without producing a hyper-cathartic effect. This powerful and habitual costiveness did not amount to a constipation, for the patient did not complain of pain, and the evacuation, when procured, was not in unusual large quantity. When the bowels were freely opened, they were kept so by a solution of the tartrite of potash. With this, the discharge by blisters, the punctures, and the stimulating and diuretic operation of the calomel and squills, finally effected a cure. I find, in the first volume of the Philadelphia Medical Museum, that Dr. Thomas Sim, of Virginia, has cured Dropsies by bleeding, and evacuants of calomel and jalap.

3d. *Sudorifics.* These are very useful medicines in Dropsy. It appears to me that the warm bath in the evening would be of infinite service in producing a sudorific effect, by which great relief is procured. While perspiration is sought and induced, the bowels must be attended to, as a determination to the skin is one great cause of costiveness. A part of the operation of an emetic will be to bring on a gentle perspiration. Various formulæ of sudorific medicines were given to a black man in the New-York Hospital, in the winter and spring of the year 1807, without effect; but a drachm of laudanum would occasion a profuse perspiration. In a febrile Dropsy, sudorifics must be almost sovereign remedies.

4th. *Diuretics.* The most powerful and most useful medicines in Dropsy are diuretics. The cure of this disease is now, for the most part, trusted to these; and if due attention is paid to regulating the other excretions, they will seldom fail to produce the desired effect. They are serviceable in both states of Dropsy, whether attended by Pyrexia or not, as the discharge of urine does not debilitate like other evacuants. The medicines of this kind which are most efficacious, are the super-tartrite of potash and squills. The former has likewise the advantage of operating upon the bowels while it increases the flow of urine. The crystals of tartar (or the sulphate of potash) may be exhibited in pill, powder, or solution, from ten to twenty grains three or four times a day.

The cream of tartar, or the super-tartrite of

potash, may be given to the amount of one or two scruples twice or thrice a day, in powder, alone or combined with some other diuretic or cathartic medicine. It is used in our Hospital in solution, in the portion of a wine-glass full every two hours. Two ounces are dissolved in a pint of water.

The scilla has lately come into great use as a remedy in Dropsy. In combination with calomel it generally has a happy effect. One grain of calomel with two of the powder of squills made into a pill, and given three times a day, will increase the urine, diminish the size of the body, and frequently cure the patient. The oxymel of squills may likewise be given in this disease to produce nausea or vomiting; but as such medicines are generally disagreeable, they will not bear to be repeatedly administered.

Digitalis is another remedy which has been used in Dropsy. Where it has been found serviceable, I believe it to have been so not by its diuretic effects, but by its operation on the arterial system, in diminishing morbid action. Upon this principle I think that it promises success in febrile Dropsy and other inflammatory complaints.

Digitalis may be given in tincture from five to fifteen drops, three or four times a day. From four to six grains of the powdered leaves have been given in a day, in powder or pills, alone, or combined with other medicines, beginning with one grain daily. Calomel, opium, and digitalis are sometimes combined. A scrup-

ple of the tartrite of potash, and a grain of digitalis, form a good sudorific in dropsical cases.

5th. *Friction.* This is sometimes recommended, and may be useful. So far as I have observed, and inquired into the practice of others, I cannot see that much benefit is promised by friction alone. Cullen expresses the same opinion of friction with oil. At the same time, I doubt not that friction and exercise, with due attention to other remedies, may be united with advantage.

6th. *Bandages.* Sydenham* and Le Dran† condemn external applications as of little use. I am, however, partial to them. When the extremities are much swelled with œdema, bandage I believe to be of great service. On the body it is not so essential, unless to assist support a very great enlargement of the abdomen. Continual pressure by bandage rapidly removes the fluid effused in Anasarca. I rely upon this as a fact which I have noticed frequently in the New-York Hospital. A roller bandage, begun at the foot and extended above the knee, is essential in œdema. If the roller is tighter on the leg than on the foot, the swelling below will increase, as the tightness of the bandage will retard the venous circulation, and not press uniformly on the absorbents. It is necessary then to begin the bandage at the toes or fingers, and go on with an uniform pressure.

These efforts to cure Dropsy, if combined and varied, will generally succeed, but if they do not, other resources are left.

7th. *Blisters.* Evacuations by blisters are not very pleasant in diseases where there is a morbid sensibility of the skin; and in Dropsy they are particularly troublesome. The great discharge they occasion, which is their principal operation, is not only disagreeable, but sometimes dangerous. In the cold oedematous extremities of debilitated habits, the watery discharge which keeps up a continual evaporation from the surface, carries off the natural heat of the parts, and helps to sink the patient.

In the oedema accompanied by a tense and inflamed state of the skin, blisters are apt to run into gangrene. I saw, however, a man with Ascites, and anasarcaous extremities, whose legs were very large, the skin tense, inflamed and sore. His pulse, however, did not indicate febrile action. On one leg he had a large ecchymosis from a slight bruise. To this the house physician, in the absence of the visiting physician, ventured to apply a blister, and punctured the legs in other parts. The blisters drew, discharged a great quantity, but looked black and ugly for a few days, and then presented a more healthy appearance. The man complained a great deal of the sore, attended with great heat and pain, making him restless, uneasy and unable to walk. It continued open for some time, but finally healed, and the patient recovered.

8th. *Scarification.* Blisters, scarification, or punctures with a lancet, answer the same purpose in Anasarca as a tapping does in Ascites. This anasarcaous tapping is of great service if

the state of the patient can bear it. It may be performed transversely to the direction of the muscular fibres of the part operated on, otherwise the incisions are too apt to heal. This operation, however, is attended with the same inconvenience as blisters, the slow dripping discharge, and the disposition to gangrene.

9th. *Tapping.* The operation of tapping, named the paracentesis, was formerly resorted to only after every thing else had failed, and then it generally proved unsuccessful. Hence it was described as unnecessary. I am informed that Dr. Richard S. Kissam, of New-York, is very successful in all his operations of this kind, as he taps as early as the size of the abdomen will admit. Dr. John Fothergill,* of London, has written a paper on early tapping, and strenuously recommends it. The usual place for the operation is between the spine of the ilium on the left side, and the navel; where the tendons of the oblique muscles meet, and the parieties of the abdomen are thinnest, and where the hypogastric artery is avoided. In the eighth volume of the Medical Repository, page 383, there is a case of Dropsy drawn up by Dr. Martin, of Maryland, where tapping at the navel was successful; and hence he recommends the operation to be performed at that place. This mode of operating has been practised by others since; and at the New-York Hospital I have been confirmed in my ideas of its superiority. By tapping at the navel with the usual instrument (a trocar), the fluid will have

* See his Works, vol. ii. edit. 1783.

as free an exit as in the other way, and the operation will be simplified. One great desideratum in favour of tapping at the navel is, that it will not be so apt to produce syncope, nor to induce that extreme debility which is generally consequent on the paracentesis performed in the other way. If the operation is performed with the small trocar, though it will be more tedious to the operator, it will be less dangerous to the patient. When the abdomen is considerably distended, the umbilicus is generally prominent, and the operation easily performed. The integuments and tendons through which the instrument passes are thinner than at the usual place between the ilium and navel. On the inner side of the parieties of the abdomen, where the umbilical vessels have been obliterated, a hollow or cavity is left, which, when distended by the fluid within, leaves little more than the integuments for the instrument to pass through. Besides this, the skin and tendon here are more firmly connected, and not so easily puffed up and separated by œdema. This is sometimes so much the case, that a slight puncture with a lancet will be effectual; but it is better done with a small trocar. The patient may sit up in a chair, or on the bed. A bandage should be applied to the body, and the wound kept with no other dressing than a pledgit of lint, as the great collapse of the belly will bring it together, and heal almost by the first intention.

If, in the operation thus performed, the patient does not suffer a great loss of strength, and

the collection should rapidly return, I would advise its repetition before it acquires its former size, and again repeat it till the disease is subdued. Thus I have given the general outline of modern practice in this disease, without going into great detail.

The second indication of cure, to restore the system to a regular action whenever it becomes excessive, may be effected,

1st. *By venesection.* When a Dropsy is inflammatory, blood-letting will immediately check the disease. This restores tone to the system, by moderating the excitement, and reducing it to a healthy standard. This being done, if any fluid remains effused, it is easily removed by the means already mentioned.

2d. *By stimulants and tonics.* These are meant for the other state of Dropsy, and may sometimes be indicated in this stage, where excessive debility supervenes morbid action. Medicines for this intention are to be chosen, combining these two qualities; they must be tonic and stimulants. Of these many are enumerated by writers on the *Materia Medica*. The red wines are useful dietetic medicines. Bitters restores the tonic powers of the stomach. The principal reliance, however, is to be placed upon the use of the Peruvian bark, and different preparations of iron.

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